



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Good Management Practices for Woodworking Manufacturing Facilities

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Introduction:

- The purpose of this document is to encourage small business owners of woodworking manufacturing facilities to consider implementing good management practices that will reduce the environmental impacts from the business. By reducing the environmental impacts, a business may become exempt from environmental permitting requirements.
- According to the Indiana Department of Environmental Management (IDEM), a small business:
 - Is owned or operated by a person that employs one-hundred (100) or fewer individuals.
 - Is a stationary source that does not move.
 - Does not emit fifty (50) tons or more per year of a single regulated air pollutant.
 - Emits less than seventy-five (75) tons per year of all combined regulated air pollutants.

Air Emissions:

- IDEM recommends each stain, paint, sealer, topcoat, thinner, solvent or other petroleum based liquid contain the lowest amount of Hazardous Air Pollutants (HAPs) suitable for the intended use. Most coating suppliers offer a full line of HAP-free or low-HAP materials that will accomplish the same work as materials that contain HAPs. The woodworking facility should be able to accomplish the same work while reducing obligations under environmental law with HAPs free materials.
- IDEM recommends a wood finishing operation purchase stains, paints, sealers, topcoat or other coating additives with the lowest possible Volatile Organic Compound (VOC) content. The VOC component of coatings, such as toluene, benzene and formaldehyde, only serve to keep the coating in a liquid state. The VOC components are emitted (given off) during the drying process. Therefore, it is both environmentally responsible and economically sensible to use coatings with the lowest VOC content possible. Please note that most "water based" coatings will have some VOC content. With regard to environmental regulations, the VOC content of a coating is considered without the water and "exempt solvents," such as acetone. For example, the Material Safety Data Sheet (MSDS) for a water based coating may indicate that it has a VOC content of 1.37 pounds per gallon (a low VOC content). However, when the VOC content of the coating is calculated without the water and "exempt solvents," the VOC content may be significantly higher (5.5 pounds per gallon, for example) and may be higher than some coatings that are not marketed as "water based." Upon request, a coatings manufacturer or supplier should be able to provide the VOC content of a coating "less water and federally exempt solvents."
- IDEM recommends that all coatings applied with a spray gun be applied in a booth equipped with filters designed to collect overspray particulate matter (PM). The facility staff should inspect the PM filters daily to ensure that all filters are relatively clean and in place with no gaps that would allow PM to escape and accumulate on the exhaust fan or the ground outside the building. Excessive coating accumulation on the exhaust fan may present both a fire hazard to the structure and possible violation of environmental air compliance conditions. Coating accumulation on the ground outside the facility may indicate the presence of soil and/or groundwater contamination that will require a costly cleanup on the part of the business owner.
- IDEM recommends that coatings applied with a spray gun be applied with a high volume, low pressure (HVLP) spray gun. The applicator should carefully read the directions for proper spray gun operation. All supplied air should be provided at the minimum air pressure. The operator should also adjust the spray pattern daily to ensure maximum coverage with minimum overspray. Excess air pressure and inappropriate spray patterns will cause the facility to waste coating material and unnecessarily generate pollution that may require compliance with environmental

regulations. Also, other recommended spray gun technologies that may help further reduce air emissions include: airless spray application systems, air-assisted airless spray guns or an electrostatic spray application system.

- IDEM recommends that spray operators be properly trained. Studies have shown that having a well trained paint operator can greatly reduce the amount of coating lost due to overspray. Reducing overspray not only helps to reduce air pollution, it also saves the company money because using less coating means that less coating is purchased. Therefore, it is important to have a good operator training program in place.
- IDEM recommends that used cleaning solvents and waste coatings from cleaning spray equipment be collected in sealable containers at the end of the day or during color changes. Seal the container as soon as the equipment is cleaned, and dispose of the solvent and waste coatings to minimize evaporation. Containers should remain closed when not in use.
- IDEM recommends that wood dust created from all wood working operations be collected and discharged through a cyclone/baghouse type dust collection system. By routing all wood working exhaust through a cyclone/baghouse dust collector, the facility can efficiently collect 80-99% of all dust generated. The cyclone/baghouse dust collection system effectively reduces the amount of PM emitted to the environment, and increases the amount of material that can be sold or otherwise used. Both the cyclone and/or the baghouse should be regularly checked and repaired to make sure that the equipment is functioning properly (e.g. no bags are torn in the baghouse).
- The facility should never burn any material for the purposes of trash disposal. A facility can burn sawdust or clean wood scraps in a stove or in a boiler as a means of generating useful heat, steam or hot water. However, at no time can a facility burn material solely for disposal purposes. Furthermore, at no time can a facility burn any wood that is treated or coated, for any reason. Any actions at the facility suggesting such activity can result in either state or federal (or both) environmental violations and may be subject to fines or increased levels of monitoring.

Hazardous Waste:

- The facility must identify all hazardous and potentially hazardous wastes and should make every effort to reduce the amount of hazardous or potentially hazardous waste generated per month. Typical hazardous wastes generated at a facility include (but are not limited to): rags, paper and cardboard contaminated with liquids from the finishing operations, PM filters from the spray booth in the finishing operation, fluorescent light bulbs, used oil, gloves or other protective clothing used in the finishing operations and waste liquids from the finishing operations.
 - Rags that are contaminated with any liquids from the finishing operations must be determined to be a hazardous or non-hazardous waste. Rags that are sent for washing at a professional cleaning service are exempt from hazardous waste regulations, and therefore do not count toward a facility's monthly hazardous waste generation.
 - Fluorescent or mercury vapor light bulbs must be counted as a hazardous waste unless they are recycled at a permitted facility.
 - Used oil that is recycled can be managed under Indiana's "Used Oil Rule," and is not considered a hazardous waste.
- Once all potential hazardous waste has been minimized, the facility must track the weight of the remaining hazardous waste generated per month. If, in any month, the amount of hazardous waste generated exceeds two-hundred-twenty (220) pounds, the facility would be at least a Small Quantity Generator (SQG) or possibly a Large Quantity Generator (LQG) of hazardous waste, and must comply with all the requirements of the appropriate classification.
- All hazardous waste containers must follow the proper labeling and storage requirements. To prevent the contamination of usable material or non-hazardous waste with hazardous waste, the facility should label each storage container with:
 - The words "Hazardous Waste."
 - A description of the contents.
 - The date when the waste first began accumulating.
- The containers must be closed when not in use and be in good condition without any leaks or visible damage.

Spills:

- The facility must act to clean up any spilled materials that may cause soil or groundwater contamination as quickly as possible. If the spilled material cannot be cleaned up within two (2) hours, the facility must report the spill to IDEM on the "Spill Line" at 1-888-233-7745. Spills on impervious surfaces (cement or concrete) need only be cleaned up and not reported to IDEM. However, if a spill of a quantity of chemicals occurs in a gravel driveway or on uncovered ground, the facility must clean up the spill within two (2) hours or report the spill to IDEM at the phone number provided above. If a facility reports a spill to IDEM, the facility will be contacted by an IDEM Emergency Responder and guided through any actions required to complete a cleanup of the spill in accordance with state and federal laws.

Spill Prevention Control and Countermeasures:

- IDEM recommends the facility try to avoid any above ground storage of oil or petroleum products in excess of 1,320 gallons.
- IDEM recommends the facility try to avoid any below ground storage of oil or petroleum products that meets or exceeds 42,000 gallons.

Storage Tanks:

- IDEM recommends the facility try to avoid installing any single underground storage tank equal to, or larger than 1,100 gallon capacity. Because of the environmental risks presented by underground storage tanks, it is recommended that the facility avoid installing any underground storage tanks.
- If an above ground storage tank is installed, it should be placed in a water tight basin (secondary containment) that is large enough to contain the entire contents of the above ground storage tank without releasing any material to the ground. The above ground storage tank and secondary containment should be covered to either reduce or eliminate the accumulation of rain or snow in the secondary containment. Rain or snow that accumulates in the secondary containment reduces the amount of material that can be held if the above ground storage tank fails and causes the facility to determine if the accumulated rain or snow is a hazardous waste requiring disposal as such.

Public Drinking Water:

- IDEM recommends the facility avoid placing any material within one-hundred (100) feet of any drinking water well to ensure that no contamination from an outside source will impact the quality of the well water. This restriction should apply to all industrial sources of pollution as well as any animal or farm related sources of pollution. The facility should periodically test the water from the well to determine if it has been adversely impacted by a source of contamination. Water samples should be collected once a year and submitted for laboratory analyses of bacteria and nitrates. If water quality is found to be compromised, the facility should investigate water treatment technologies that will protect the health of the facility workers and all who use the well.

Wastewater:

- The facility must not discharge any waste water generated as part of the manufacturing process to the environment (this includes a septic system) without first obtaining a National Pollutant Discharge Elimination System (NPDES) permit. Waste waters generated from a kitchen or bathroom that are discharged to a septic system do not need an NPDES permit.

Storm water:

- IDEM recommends the facility eliminate any points where storm water may be exposed to an industrial activity that may cause water contamination. The facility should ensure that no liquids or coating overspray accumulates outside the building structure. Water from rain or snow events may become contaminated and the flow of the storm water may spread that contamination increasing the costs of any required cleanup activities.
- This document is intended to provide a description of those activities that will minimize the environmental impact of a facility and reduce the obligations of the facility under current environmental law. Compliance with all of these recommended activities may not ensure compliance with state and federal environmental regulations.



More Information:

- For questions and concerns, contact IDEM's confidential Compliance and Technical Assistance Program at (800) 988-7901.
- For more information or confidential technical assistance, contact IDEM's Office of Pollution Prevention and Technical Assistance at (800) 988-7901.
- Submitting a Compliance Initiative Notification Form to IDEM may lower penalties from compliance violations. Contact the confidential Compliance and Technical Assistance Program (CTAP) at (317) 232-8172 or (800) 988-7901 to receive a copy of the form.